Grant provides for Space Sciences' largest outreach program ever

More minority students in the Houston area will be exposed to hands-on space sciences and astromaterials activities beginning next year as the result of a recent grant award at JSC. Titled S*pace Science Minorities Outreach*, the multi-tiered program is aimed at increasing awareness of the sciences among area youth, teachers and college students.

The program, led by JSC Earth Science and Solar System Exploration Education and University of Houston-Downtown Assistant Professor Penny Morris-Smith, Ph.D., ties in a number of Houston-area organizations for a comprehensive outreach program.

"This program combines elements from other outreach activities we've done before," explained Jaclyn Allen. "We've had interns, we've had student programs, we've trained teachers, but we've never had them all together and never with a focus on minorities."

> ***We hope the program may prove to be a good chance to provide students with good role models and make them see that they can achieve these kinds of jobs.***
>
> – Penny Morris-Smith, Ph.D.

NASA JSC Photo 2000-07054 by Benny Benavides

Shown here, left to right, Penny Morris-Smith, Ph.D., Marilyn Lindstrom, Ph.D., and Jaclyn Allen, of JSC's Earth Science and Solar System Exploration Education team will lead one of the largest outreach projects ever taken on by their department.

Through the program, JSC's experience and unique resources in astromaterials and planetary science will be cascaded down through multiple education levels. JSC's astromaterials experts will mentor college interns from the University of Houston-Downtown and from Texas Southern University. In turn, through a student ambassador project, high school and college students will be trained at The Houston Museum of Natural Science by JSC and museum staff, to extend space science activities to the public through demonstrations at the museum, youth clubs, local day camps and community family events.

"This large-scale program umbrellas many of the outreach activities we already participate in," said Morris-Smith. "At the same time, we are able to partner with outside organizations, such as the museum and academia, that share our expertise in space science."

According to Morris-Smith, it is a win-win situation for everyone involved. The program helps equip the students with professional skills they might not otherwise be exposed to while they themselves help encourage other students to pursue science and higher education.

"The whole point of this program is to reach out to these students and get them excited about science and motivate them towards college," said Morris-Smith.

"We'll be doing that in spades," adds JSC's Marilyn Lindstrom, Ph.D., Earth Science and Solar System Exploration Education lead who is co-investigator for the program, "because we are targeting inner city students and providing them with role models."

Additionally, faculty from UHD and TSU will provide summer courses on space science for educators. One of the courses that will be taught at UHD will provide graduate credit towards the MAT degree. In addition, UHD will teach pre-service courses for prospective teachers.

The Space Science Ambassador program will provide pre-college science programs. Some participating schools include the Raul Yzaguire School for Success, a charter school that provides education for pre-K to 12, and some schools within the Klein Independent School District. According to the program's administrators, the program has the potential to make a strong impact in the Hispanic community through minority and bilingual mentors.

"This program can give students exposure to the 'can do' attitude," said Jaclyn Allen, Lockheed Martin science education specialist. "If they can see [success stories] in their community, and they can identify with the mentors, they may see it as an opportunity. That is where the role models come in."

The program goes into effect in January 2001 and will be one of the largest outreach projects taken on by the Earth Science and Solar System Exploration Education team.

The grant, a three-year obligation, is funded through the Office of Space Science and the Office of Equal Opportunity Programs Minority University Education and Research Partnership Initiative in Space Science. ■

JSC recognizes Fire Prevention Week

The smoke has cleared and the sirens have stopped but hopefully the messages have stuck as Fire Prevention Week concluded at JSC. Always committed to safety, the center organized special activities to commemorate Fire Prevention Week 'The Great Escape' campaign October 8 - 14.

"The primary goal this year was to promote fire drills at home," said J.B. Williamson, Fire Protection Operations coordinator. "'The Great Escape' is a fun, family-oriented activity that gets the public actively involved in home fire planning and practice. During the past two years, the National Fire Prevention Association has documented 58 lives saved as a direct result of this campaign. With help from fire safety advocates throughout the United States and Canada, our goal is to make sure more families are truly prepared to survive a home fire than ever before."

As part of the campaign to increase fire prevention awareness, displays were set up in Bldgs.1, 3, 11, 30 and Sonny Carter Training Facility. Additionally, fire extinguishers and smoke detectors, donated by Muniz Engineering and SAIC, were awarded as prizes in a drawing for those who pledged to be fire safe and to practice fire drills at home. ■

NASA JSC Photo 2000e26595 by James Blair

Area fire departments paraded their shiny trucks of past and present as part of JSC's Fire Prevention Week. Shown here, a 1947 Mack, owned by Tim Rogers of the Baytown Fire Department, makes it way through the parade course.

JSC kicks off Continuous Risk Management initiative and training

By S. Alexs McCauley

With the inherent risk of space flight, NASA has been managing risk since its inception. NASA Administrator Dan Goldin has challenged all NASA centers to provide a renewed world-class risk management foundation for our spacecraft engineering community. All applicable NASA personnel should be trained and familiar with the tools and techniques of risk management.

Under NASA Program and Project Management Processes and Requirements [NPG 7120.5A] NASA stresses risk management as an integral part of program/project management. This NASA policy provides program and project management considerable leeway in how they choose to implement risk management. The goal of this initiative is to integrate continuous risk management into existing management processes.

Continuous Risk Management is a structured process to ensure that risk plays a role in the program or project management decision process. It provides a disciplined environment for proactive decision making to:

- Assess continually what could go wrong (risks);
- Determine which risks are important to deal with;
- Implement strategies to deal with those risks;
- Assure/measure effectiveness of the implemented strategies.

Risk is defined as the possibility of suffering loss, injury, disadvantage or destruction. Risk management is the proactive approach to dealing with potential problems, whereas problem solving is a reaction to a problem that has already occurred. By identifying and planning for risk, individuals can reduce the cost and stress associated with immediate unexpected problems. The documented CRM process feeds directly into NASA's continuous effort to improve through lessons learned from previous projects and programs.

According to the Continuous Risk Management Guidebook, published by Carnegie Mellon University, CRM enables better use of resources through a proactive approach to identify potential problems and provides input into management decisions regarding resource allocation. It promotes teamwork by involving personnel at all levels of the project. CRM provides information for trades based on priorities and quantified assessments, therefore increasing the chances of the project's success.

The Guidebook also credits open communication as the key to the successful implementation of CRM. Management should be looking to the workforce to provide this type of up-front identification and analysis of risk. Their knowledge and understanding of the project is required to successfully employ CRM.

Everyone at NASA has a role in contributing to the success of NASA missions via CRM. The Human Resources and Education Department has funded a comprehensive set of courses to help meet this challenge. Because everyone has different needs, the training program will be targeted for three different skill levels: Awareness, Basic Knowledge, and Comprehensive Knowledge. The focus of the classes is on the tools and techniques of risk management. Our Center Director, George Abbey, encourages everyone involved with spacecraft design, management, or operations to take one of these courses.

Visit the Risk Management website at http://wwwsrqa.jsc.nasa.gov/RiskMgmt/Pages/MainPage.asp to see a complete listing of courses and their descriptions. The Safety, Reliability and Quality Assurance Directorate will also be sponsoring a symposium on CRM in spring 2001. ■